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Document management — AFP interchange for PDF

Gestion des documents — Échange AFP pour PDF

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 171, *Document management applications*, Subcommittee SC 2, *Document file formats, EDMS systems and authenticity of information*.

This second edition cancels and replaces the first edition (ISO 22550:2019) as a minor revision.

The main changes are as follows:

1) The French title for this document was changed to more accurately reflect the purpose of the AFP interchange for PDF.

2) Figure A.1 in Annex A was updated to improve readability.

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Introduction

Advanced Function Presentation (AFP) is a coordinated set of document creation, viewing, archiving and printing hardware, software, and services that is used heavily in the high-speed transactional printing market, which includes the printing of financial statements, utility bills, books, and marketing materials (e.g. brochures).

AFP has proven itself in these environments due to its performance, reliability, and flexibility.

— AFP performance comes from its hierarchical object-oriented structure, resulting in a condensed data stream size and efficient reuse of print resources (document objects). The document objects managed automatically by AFP include text, fonts, overlays, images, graphics, and other resource objects such as bar codes and ICC profiles for colour management.

— AFP reliability in print environments comes from an architected bi-directional printer data stream interface that manages every page through a print system, making sure that each page gets printed correctly for security, audit, and accounting purposes.

— AFP flexibility comes from its ability to include other standard document formats such as TIFF, JPEG, and PDF as included objects within an AFP object container. These included objects can then be used like any other document object in the AFP system and can be placed anywhere on a page where they can then be printed or viewed.

While AFP has had the ability to include PDF in object containers for many years, more customers in the transactional print environment are creating workflows that combine PDF content within AFP documents. This allows them to use PDF to create the document content and then embed these PDF pages in AFP to get the performance and management they need in high-speed print environments. These 'hybrid' workflows allow them to get the best of what both PDF and AFP have to offer.

AFP itself originated within IBM as a mainstream presentation architecture. In 2009, the AFP Consortium (AFPC) was formed as a peer-based open standards organization composed of companies from around the world with an interest in AFP. The entire AFP architecture is now developed and maintained by the AFP Consortium.

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Document management — AFP interchange for PDF

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1 Scope

This document specifies Advanced Function Presentation (AFP) interchange as a container for document objects by defining the AFP file format Mixed Object Document Content Architecture (MO:DCA)[1)]. It includes a means of identifying support for specifically including single and multi-page Portable Document Format (PDF) document objects as a container function set. It also includes a mechanism for pairing and managing resources associated with PDF.

NOTE For an example of how PDF external file references map into AFP secondary resources, see Annex A.

The use of AFP is applicable to AFP and PDF workflows where the final production is managed within an Intelligent Printer Data Stream (IPDS) environment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12651-1, *Electronic document management — Vocabulary — Part 1: Electronic document imaging*

ISO 19005-2, *Document management — Electronic document file format for long-term preservation — Part 2: Use of ISO 32000-1 (PDF/A-2)*

ISO 32000-1, *Document management — Portable document format — Part 1: PDF 1.7*

Mixed Object Document Content Architecture (MO:DCA) Reference. AFPC-0004-09. Tenth Edition. AFP Consortium, 2017[2)]

Bar Code Object Document Content Architecture Reference. AFPC-0005-09. Tenth Edition. AFP Consortium, 2015[3)]

Color Management Object Content Reference. AFPC-0006-01. Second Edition. AFP Consortium, 2012[4)]

Font Object Content Architecture Reference. AFPC-0007-06. Seventh Edition. AFP Consortium, 2015[5)]

Graphics Object Content Architecture for Advanced Function Presentation Reference. AFPC-0008-03. Fourth Edition. AFP Consortium, 2017[6)]

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1) The Architecture references shown (MO:DCA as an example) are copyright of the AFP Consortium. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of this product.

2) Available at http://afpcinc.org/wp-content/uploads/2017/12/MODCA-Reference-09.pdf

3) Available at http://afpcinc.org/wp-content/uploads/2016/08/BCOCA-Reference-09.pdf

4) Available at http://afpcinc.org/wp-content/uploads/2016/08/cmoca_reference-01.pdf

5) Available at http://afpcinc.org/wp-content/uploads/2016/08/FOCA-Reference-Font-Object-Content-Architecture-Reference.pdf

6) Available at http://afpcinc.org/wp-content/uploads/2017/04/AFP-GOCA-Reference-Graphics-Object-Content-Architecture-for-AFP-Reference.pdf

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Image Object Content Architecture Reference. AFPC-0003-07. Seventh Edition. AFP Consortium, 2010[7)]

Presentation Text Object Content Architecture Reference. AFPC-0009-03. Fourth Edition. AFP Consortium, 2016[8)]

Presentation Object Subsets for AFP. AFPC-0002-03. Third Edition. AFP Consortium, 2016[9)]

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12651-1, ISO 19005-1, ISO 32000-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 AFP description

This clause introduces and defines the AFP Interchange Set and Function set for PDF used for containing PDF objects in AFP documents. AFP includes a base AFP presentation interchange set (MO:DCA IS/3) augmented with a function set for graphic arts (MO:DCA GA) that supports modern PDF objects within AFP. The base interchange set (hereafter referred to as IS/3) can contain native and non-native content, while the additional graphic art function set is essentially a non-native container for single- and multi-page PDF.

For detailed definitions of native AFP content within IS/3, refer to (MO:DCA) AFPC-0004-09, Chapter 7.

Non-native content in IS/3 includes presentation object containers with defined subsets for TIFF and JPEG:

— AFPC TIFF;

— AFPC JPEG.

These are formally defined in Presentation Object Subsets for AFP. AFPC-0002-03. AFP Consortium, 2016. AFP full function document object container support is achieved by the inclusion of an additional presentation object container for PDF.

5 Conformance

5.1 General

The definition of conformance with this interchange set is limited to integrity of the resulting AFP MO:DCA file. The definition of what constitutes an AFP conformant product is not within the scope of this architecture definition.

7) Available at http://afpcinc.org/wp-content/uploads/2016/08/IOCA-Reference-Image-Object-Content-Architecture-Reference.pdf

8) Available at http://afpcinc.org/wp-content/uploads/2016/08/PTOCA-Reference-Presentation-Text-Object-Content-Architecture-Reference.pdf

9) Available at http://afpcinc.org/wp-content/uploads/2016/08/Presentation-Object-Subsets-for-AFP-03.pdf

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